Distributed by:

JAMECO® ELECTRONICS

www.Jameco.com ✦ 1-800-831-4242

The content and copyrights of the attached material are the property of its owner.

EXQ60D Series

Dual positive output

ARTESYN TECHNOLOGIES

- **Two positive outputs**
- **Output voltage tracking**
- **High efficiency**
- **Approved to EN60950 (TÜV Rheinland), UL/cUL1950**
- **Operating baseplate temperature of -40°C to +100°C**
- **Up to 100% load imbalance**
- **Trim function**
- **No minimum load**
- **Complies with ETS 300 019-1-3/2-3**
- **Fully compliant with ETS 300 386-1**

The EXQ60 is a new high efficiency, open frame, isolated 60 Watt converter series in an industry standard quarter-brick footprint. The EXQ60 delivers very high output current at low voltages, and excellent useable power density for today's high end applications. The first two models in the series feature an input voltage range of 33 to 75VDC and are available in output voltages of 5V/3.3V and 3.3V/2.5V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies for the models are 91% for the 5V/3.3V and 90% for the 3.3V/2.5V version. The EXQ60 series also has a remote on/off capability. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950, (TÜV Rheinland) and UL/cUL1950, the EXQ60 reduces compliance costs and time to market.

c UL us TÜV

2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	Both outputs	±10%
Setpoint accuracy	Both outputs (See Note 1)	±1% max.
Output voltage	5V/3.3V	4.75V < Vo1 < 5.23V 3.20V < Vo2 < 3.43V
(over all line and load conditions)	3.3V/2.5V	3.18V < Vo1 < 3.48V 2.39V < Vo2 < 2.60V
Minimum load	Both outputs	0%
Ripple and noise	20MHz bandwidth	60mV pk-pk max., 20mV rms max.
Transient response peak dev. settling time	50% to 75% and back to 1.0%, no external cap.	120mV/80mV 100µs
Short circuit protection		Both outputs
Tracking		Outputs track start-up and shutdown

INPUT SPECIFICATIONS

Input voltage range	48Vin nominal	33 to 75VDC
Input current	No load Remote OFF	60mA max. 20mA max.
UVLO turn ON voltage UVLO turn OFF voltage		33V (typ) 30V (typ)
Start-up time	Nominal line	8ms (typ)
Active high remote ON/OFF Logic compatibility ON OFF		(See Note 4) Open Collector ref. to -input Open circuit or >4VDC <1.2VDC

EMC CHARACTERISTICS

ETS 300 386-1 table 5		
Conducted emissions	EN55022 with external filter	Level A
	EN55022 with external filter	Level B
Radiated emissions	EN55022	Level B
Immunity:		
ESD air	EN61000-4-2	8kV (NP), 15kV (RP)
ESD contact	EN61000-4-2	6kV (NP), 8kV (RP)
Radiated field enclosure	EN61000-4-3	10V/m (NP)
Conducted (DC power)	EN61000-4-6	10V (NP)
Conducted (signal)	EN61000-4-6	10V (NP)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output Input/baseplate	1500VDC 1500VDC
Input fuse		5.0A slow blow
Switching frequency	Fixed	400kHz (5V/3V3) 325kHz (3V3/2V5)
Approvals and standards (See Notes 2 and 3)		UL/cUL1950, EN60950 TÜV Rheinland
Weight		45g (1.6 oz)
MTBF	MIL-HDBK-217F @ 25°C, 100% load ground benign	>270,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating baseplate temperature	-40°C to +100°C
	Non-operating	-40°C to +125°C

EXQ60D Series

Dual positive output

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

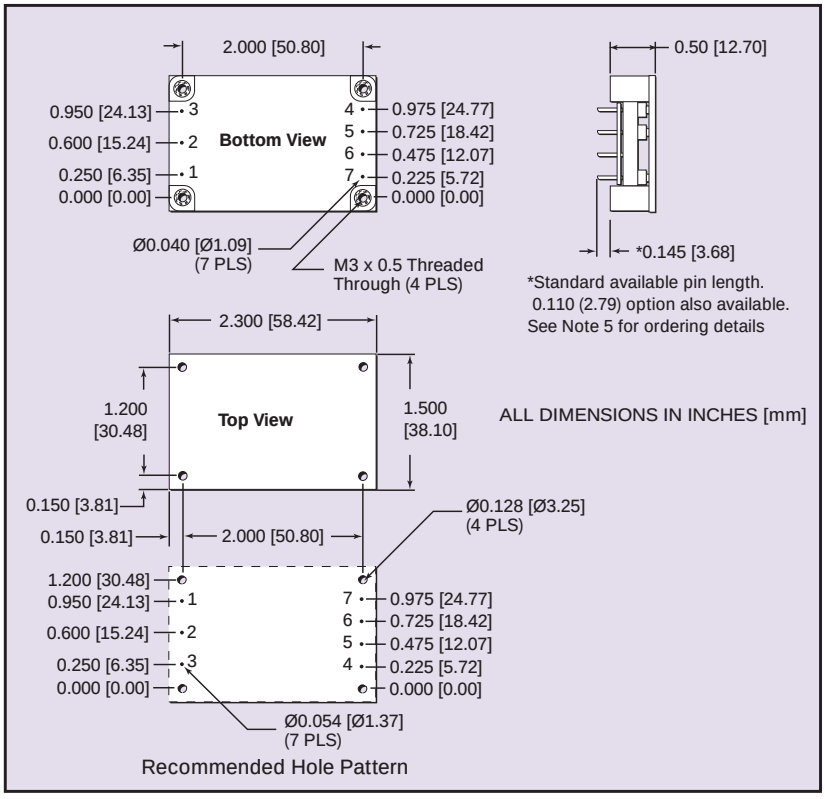
INPUT VOLTAGE	OUTPUT VOLTAGE OP1	OUTPUT VOLTAGE OP2	OUTPUT CURRENT 1	OUTPUT CURRENT 2	OVP 1	OVP 2	TYPICAL EFFICIENCY	MODEL NUMBER (4, 5)
33-75VDC	5V	3.3V	12A	15A	5.9V	4.0V	91.5%	EXQ60-48D05-3V3
33-75VDC	3.3V	2.5V	12A	16A	4.0V	3.0V	90.5%	EXQ60-48D3V3-2V5

Notes

1. Io1 = 6A, Io2 = 9A
2. User must provide recommended fuses in order to comply with safety approvals.
3. Maximum continuous output power.
   60 Watts for D05-3V3 models
   40 Watts for D3V3-2V5 models.
4. Active low remoteon/off is available. Standard product is active high. When ordering active low parts, designate with the Suffix '-R', e.g. EXQ60-48D3V3-2V5-R.
5. When ordering 0.110" pin lengths designate with suffix '-K'. If the product is already a '-R' suffix product then the suffix will be '-RK'

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vin
2	Remote On/Off
3	-Vin
4	OP2
5	Output Return
6	Trim
7	OP1



International Safety Standard Approvals

c UL us — UL/cUL : UL1950 File No. E135734

TÜV — TÜV Rheinland Certificate No. R2279036
CB Scheme No. US-TUVR-1157

Data Sheet © Artesyn Technologies® 2002
The information and specifications contained in this data sheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.